Course 4: Practical Physics - I

Course code: BSCPH104 **Credit:3**

At least 12 experiments out of this list are to be performed by the student.

1. TO DETERMINE THE RESTORING FORCE PER UNIT EXTENSION OF A SPRING BY STATIC AND DYNAMICAL METHODS AND ALSO DETERMINE THE MASS OF THE SPRING.
2. TO DETERMINE THE COEFFICIENT OF DAMPING, RELAXATION TIME AND QUALITY FACTOR OF A DAMPED SIMPLE HARMONIC MOTION USING A SIMPLE PENDULUM.
3. TO DETERMINE THE YOUNG'S MODULUS, MODULUS OF RIGIDITY AND POISSON'S RATIO OF A GIVEN WIRE BY SEARLE'S DYNAMICAL METHOD.
4. TO DETERMINE THE MOMENT OF INERTIA OF A IRREGULAR BODY ABOUT AN AXIS PASSING THROUGH ITS CENTRE OF GRAVITY AND PERPENDICULAR TO ITS PLANE BY DYNAMICAL METHOD.
5. TO DETERMINE THE MOMENT OF INERTIA OF FLYWHEEL.
6. TO STUDY THE VARIATION OF 'T' WITH 'l' FOR A BAR PENDULUM AND THEN TO DETERMINE THE VALUE OF 'g' K and I IN THE LABORATORY.
7. TO DETERMINE THE VALUE OF 'g' BY MEANS OF A KATER'S PENDULUM.
8. TO CONVERT GALVANOMETER INTO AN AMMETER.
9. TO CONVERT GALVANOMETER INTO A VOLTMETER.
10. TO DETERMINE THE YOUNG'S MODULUS OF THE MATERIAL OF A GIVEN BEAM SUPPORTED ON TWO KNIFE-EDGES AND LOADED AT THE MIDDLE POINT.
11. TO STUDY THE RESONANCE IN SERIES LCR CIRCUIT WITH A SOURCE OF GIVEN FREQUENCY (AC MAINS).
12. STUDY OF PARALLEL AND PERPENDICULAR AXIS THEOREMS
13. STUDY OF AIR FLOW THROUGH A CAPILLARY.
14. TO DETERMINE THE MAGNETIC SUSCEPTIBILITY OF $NiSO_4$

Note: Some more experiments may be included in the list, depending on the requirement of student and availability of apparatus in the laboratory.